UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,294	04/27/2004	Terry L. Frederick	BUR920040012US1	3293

23550 7590 07/03/2006		EXAMINER
HOFFMAN WARNICK & D'ALESSANDRO, LLC		LEVIN, NAUM B

ART UNIT	PAPER NUMBER
2825	

HOFFMAN WARNICK & D'ALESSANDRO, LLC
75 STATE STREET
14TH FLOOR
ALBANY, NY 12207

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _27 April 2004_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _27 April 2004_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

1. This office action is in response to application 10/709,294 filed on 04/27/2004.

Claims 1-20 remain pending in the application.

Claim Objections

2. Claim 8 is objected to because following informalities:

line 2 replace "the method" with – the system--.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being unpatentable by

Allen et al. (US Patent 6,904,575).

4. <u>As to claims 1, 8 and 15</u> Allen discloses:

(1) A method for correcting a ground rule violation for a target via pair in design,

the method comprising steps of (col.10, ll.28-39):

generating a redundant via for a target via of the target <u>via pair</u> (the invention

creates a list of potential <u>via shorts</u> that can be removed 350. Each <u>error</u> vector <u>includes</u>

<u>at least two possible vias</u> which are candidates for removal - col.4, ll.40-43) where the

redundant via corrects the ground rule (By considering the manufacturing window

requirements and the distance requirements associated with via flaring, a ground rule is

made which delineates which vias are potentially at risk of shorting - col.6, II.1-4)

violation (invention identifies potentially shorting vias, ... then creates cloned cells of

the original cell, but without the potentially shorting vias - col.1, II.49-54) (col.1, II.49-54;

col.4, II.40-44; col.4, II.55-57; col.5, II.57-67; col.6, II.1-7); and

removing the target via corresponding to the redundant via to correct the ground

rule violation (invention substitutes each instantiation of the original cell in the shapes

database with the cloned cell ..., hereby removing such potentially shorting vias - col.1,

II.55-58; ... a redundant via is used in place of the faulty via when the faulty via is

removed from the design - col.4, II.55-57) (col.1, II.55-60; col.4, II.55-57; col.5, II.35-43);

(8) A system for correcting a ground rule violation for a target via pair in design,

the system comprising steps of (col.2, II.25-26; col.10, II.28-39):

means (col.8, II.10-34) for generating a redundant via for a target via of the target

via pair (the invention creates a list of potential via shorts that can be removed 350.

Each error vector includes at least two possible vias which are candidates for removal -

col.4, II.40-43) where the redundant via corrects the ground rule (By considering the

manufacturing window requirements and the distance requirements associated with via

flaring, a ground rule is made which delineates which vias are potentially at risk of

shorting - col.6, II.1-4) violation (invention identifies potentially shorting vias, ... then

creates cloned cells of the original cell, but without the potentially shorting vias - col.1,

ll.49-54) (col.1, ll.49-54; col.4, ll.40-44; col.4, ll.55-57; col.5, ll.57-67; col.6, ll.1-7; col.8, ll.10-34); and

means for (col.8, ll.10-34) removing the target via corresponding to the redundant via to correct the ground rule violation (invention substitutes each instantiation of the original cell in the shapes database with the cloned cell ..., hereby removing such potentially shorting vias - col.1, ll.55-58; ... a redundant via is used in place of the faulty via when the faulty via is removed from the design - col.4, ll.55-57) (col.1, ll.55-60; col.4, ll.55-57; col.5, ll.35-43; col.8, ll.10-34);

A computer program product comprising a computer useable medium having computer readable program code embodied therein for correcting a ground rule volition for a target via pair in a design, the program product comprising (col.10, ll.28-39):

program code configured to generate a redundant via for a target via of the target via pair (the invention creates a list of potential via shorts that can be removed 350. Each error vector includes at least two possible vias which are candidates for removal - col.4, ll.40-43) where the redundant via corrects the ground rule (By considering the manufacturing window requirements and the distance requirements associated with via flaring, a ground rule is made which delineates which vias are potentially at risk of shorting - col.6, ll.1-4) violation (invention identifies potentially shorting vias, ... then creates cloned cells of the original cell, but without the potentially shorting vias - col.1, ll.49-54) (col.1, ll.49-54; col.4, ll.40-44; col.4, ll.55-57; col.5, ll.57-67; col.6, ll.1-7); and

program code configured to remove the target via corresponding to the

redundant via to correct the ground rule violation (invention substitutes each

instantiation of the original cell in the shapes database with the cloned cell ..., hereby

removing such potentially shorting vias - col.1, ll.55-58; ... a redundant via is used in

place of the faulty via when the faulty via is removed from the design - col.4, ll.55-57)

(col.1, ll.55-60; col.4, ll.55-57; col.5, ll.35-43).

5. As to claims 2-7, 9-14 and 16-20 Allen recites:

(2), (9), (16) The method/system/program, wherein the removing step includes

removing the redundant via for one of the target vias and removing the redundant via for

the other of the target vias (col.5, ll.18-24);

(3), (4), (10), (11), (17), (18) The method/system/program, further comprising the

step of distinguishing those target via pairs from other structure (col.4, ll.40-44; col.4,

ll.55-57; col.6, ll.34-39);

(5), (12), (19) The method/system/program, wherein the ground rule is a

different-net spacing ground rule (col.5, ll.57-67; col.6, ll.1-20);

(6), (13), (20) The method/system/program, wherein the generating step includes

generating the redundant structure where no spacing ground rule violation occurs for a

new technology (col.5, ll.18-24; col.6, ll.21-29);

(7), (14) The method/system, further comprising the steps of repeating the

generating and removing steps for each level of a design (col.2, ll.31-67; col.3, ll.1-8).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naum B. Levin whose telephone number is 571-272-1898. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

N L

THUAN DO
Primary examiner.
6/19/2006